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GEOMATICS PRODUCTS AND SERVICES - ANNUAL REPORT 2005

The Planning and Economic Development Committee recommends the adoption of the recommendation contained in the following report January 27, 2006, from the Commissioner of Planning and Development Services:

1. RECOMMENDATION

It is recommended that this report be received for information.

2. PURPOSE

York Region Geomatics provides products and services such as mapping and analysis essential to the business and planning needs of the Region, York Regional Police, YorkInfo Partners, private and public interests, and the residents of York Region. The purpose of this report is to highlight the Geomatics products and services delivered in 2005.

3. BACKGROUND

In addition to creating and maintaining a geospatial infrastructure, technology, tools, and management of information, Geomatics analyzes complex spatial relationships, develops quality map products and provides value-added services such as training and support for Regional departments, partners and stakeholders. The use of Geographic Information Systems (GIS) has become integral to the way we do business in York Region. Introducing change management through the use of GIS and delivery of effective mapping and analysis, Geomatics staff conducts a consultation phase with clients to understand project requirements and offer recommendations on how GIS can assist them. The increasing complexity and sophistication of requests received by Geomatics is testament to the increasing level of understanding of GIS and embracement of this technology in the Region. Technology transfer combined with an effective training program promotes a self service environment, increasing the use of and accessibility to geospatial information.

4. ANALYSIS AND OPTIONS

4.1 Geomatics Value-Added Products and Services Delivered in 2005

Geomatics responded to numerous requests for spatial analysis, and quality map products

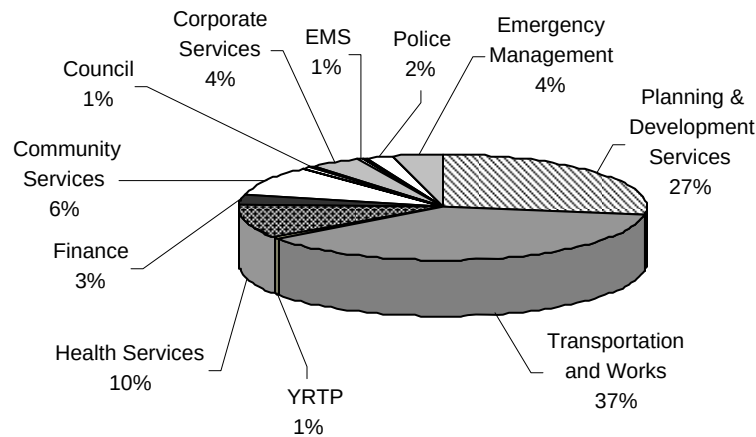
from the corporation, partners, private companies and the public at large. Efficiency, quality and customer service are integral to the delivery of products and services. “Products” comprise data creation, analysis, spreadsheets, project related datasets, spatial statistics, charts, and creation of hardcopy and digital maps through the use of GIS technology. The time required to conduct analysis and create map products is determined by the complexity of the request and availability of information. Time requirements range from hours to weeks for the creation of a single product or series of products and may draw upon the skills of numerous Geomatics staff if there are multiple tasks such as data creation, analysis and cartographic output.

Total number of Geomatics products delivered in 2005 by Regional Department:

Number of Geomatics Value Added Products delivered in 2005

Internal Client Group	No. Products
Transportation and Works	407
Planning and Development Services	296
Health Services	112
Community Services and Housing	101
Emergency Management	43
Corporate Services	41
Finance	36
Police	25
EMS	6
Council	6
Office of the Chief Administrative Officer	6
York Region Transit Partnership (YRTP)	6
TOTAL	1082

Products Delivered in 2005 – Percentages by Regional Department

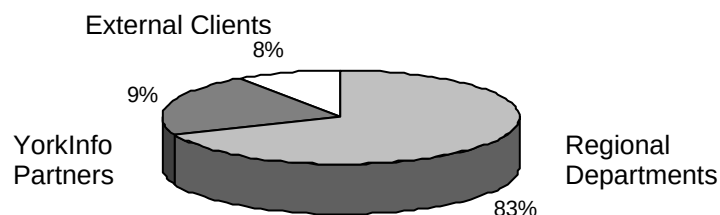


Total number of Geomatics products delivered in 2005 to Regional Departments, Partners and external clients:

Total Number of Geomatics Value Added Products delivered in 2005

Client Category	No. Products
Regional Departments	1082
YorkInfo Partners	114
External Clients	105
Total	1301

Products Delivered in 2005 – Percentages by Client Category



In addition to the delivery of data and services outlined in the YorkInfo Partner's Charter and Partner Memoranda of Understanding (MOUs), Geomatics provides value added products to lower tier municipalities and is represented in the total number of products delivered in 2005. External client's requests include over the counter sales to the public and requests from the private sector on a fee for service basis.

4.2 Enhanced Service Delivery

Creation of tools, templates, forms, and a user friendly self service environment was a major focus aimed at improving the delivery of products and services to the corporation.

4.2.1 Self-Service Bureau

In addition to the customized products and complex analysis delivered by Geomatics, the GIS self-service environment has been enhanced for users within the corporation. The "Self-Service Bureau" allows users to access geospatial data and standardized map templates to create their own GIS products in a time-efficient manner, and the ability to view and download maps created by Geomatics from a digital Map Library.

Major improvements incorporated in 2005 include:

- Data and product filing structure based on international standards (ISO Themes)
- More than 100 symbolized geospatial information layers
- 30 standardized map templates which improve the process of creating high quality map products
- More than 200 maps available in a digital Map Library
- Metadata for symbolized geospatial information layers and map products in the digital Map Library has been created to allow for effective search abilities and to provide users with essential information

4.2.2 Request for Geomatics Products and Services Automated Form

With the growing number of requests, Geomatics has produced an automated Request for Service Form that is available to staff to fill out when they require products or services from Geomatics. This automated form improves communication, customer service, and accessibility to the appropriate Geomatics staff depending on the nature of the request. The new Geomatics Service Request Form is accessible on mYnetwORK for all York Region staff.

4.2.3 Public Accessibility to Maps

If a map created for corporate use contains information that may be beneficial to the public, originating client permissions for public distribution is sought and content sensitivity is reviewed. Geomatics publishes the approved maps to the York Region website on YorkExplorer which is accessible by the public to view, download and print.

4.3 Mapping, Analysis and Application Development

Key projects that required analysis, custom application development, and mapping are highlighted to illustrate the diversity of GIS and its application in various departments of the Region.

4.3.1 York Region State of the Environment Report 2005

Focus on Our Environment is York Region's second State of the Environment (SOE) Report. Geomatics staff participated on the Advisory and Working Committee's that were established to guide the development of the document.

Geomatics staff calculated the environmental indicators utilizing GIS technologies and the latest geospatial information, which was the core of the SOE 2005 Report. The indicators were refined from the 2000 SOE Report to reflect improved data and analysis processes.

Report maps and a large Feature Map were created to illustrate our landscape. This information has also been made available to the public on YorkExplorer at www.york.ca. The State of the Environment interactive mapping view enables users to conduct information and spatial queries, make their own maps, and explore their environment from a unique perspective.

4.3.2 West Nile Virus Surveillance Program

Geomatics continues to support Health Services in the delivery of the West Nile Virus (WNV) Surveillance Program. Annual upgrades were made to the WNV Database Management System, and GPS Field Data Collection System, with training provided on the use of the applications to Health Services staff. Spatial information was prepared for Health Services staff and contractors, including previous surveillance results, mosquito trap locations, storm water management ponds, and catch basins for monitoring and application of larvicide products. Results from the bird, mosquito, and human surveillance component of the program were collected, analyzed, and mapped throughout the course of the season.

4.3.3 Municipal and Regional Base Maps

The Regional and Area Municipal Base Maps were recreated utilizing new software, which will result in substantial efficiencies when the Base Maps are updated. This undertaking will reduce required effort for annual updates by 75 percent. All boardrooms within the Regional Administrative Centre have been provided mounted Regional Base Maps for reference.

4.3.4 York Region Map Guide

Geomatics designed a new Map Guide that will replace the current *York Region Street Index*. The Map Guide will be used as a support reference in EMS, vehicles, Transportation and Works, Community Services and Housing, Health Services and Corporate Services. This publication will also be made available for purchase by the public at the front counter of Planning and Development Services.

4.3.5 Scheduled Products and Applications

To ensure customer service and keep up with rapid change, products and applications that require regular maintenance or updates on a quarterly, bi-annual or annual basis are

scheduled into a maintenance cycle. Resources are prioritized and data requirements are initiated, resulting in timely delivery. This approach also improves work planning by Geomatics to balance the numerous client requests that are submitted on a daily basis.

4.3.6 Additional Products and Services

Numerous requests and projects have been fulfilled by Geomatics staff for all departments within the corporation, partners, and the public. In 2005, additional noteworthy products and services include: Commonwealth Games Bid Maps, Approved and Draft Plans of Subdivision, New Communities, Vacant Land Inventory, Land Use Designation Calculations, Information Technology Network Sites, Childcare Facilities, Home Languages, Asthma ER Visits, Breast Feeding Clinic Catchments Areas, Speed Zone Application, Street Tree Inventory, and York Durham Sewage System (YDSS).

4.4 Emergency Management

York Region Geomatics provides geospatial information, technology, products and services to support the Region's Emergency Management Program. Information required for emergency management usually needs to be linked to a location, therefore, Geographic Information Systems (GIS) plays a vitally important role during all five phases of emergency management activities.

4.4.1 Emergency Exercises and Drills

On November 28, 2006, the Geomatics Branch supported the Region's annual emergency exercise *Operation Whiteout* by providing GIS technology and professional staff in the Regional Emergency Operations Centre (REOC). Staff displayed the location of the emergency site on the large central screen for reference, conducted analysis, and provided paper map products, as required.

Two REOC set-up drills were conducted by the Emergency Management Branch in 2005. These drills gave Geomatics staff the opportunity to implement and review their technology set-up procedures and to identify areas where they could be improved and enhanced.

4.4.2 Pandemic Preparedness

The Geomatics Branch participates on the Health Services Pandemic Preparedness Logistics Committee, planning for the delivery of support incident response functions with the use of GIS technology. Maps have been created and provided to Health Services which are kept in the Health Emergency Operations Centre, and if a pandemic should occur, Geomatics staff will conduct analysis and produce products throughout the course of the event to assist in the planning, response, recovery and mitigation phases.

4.4.3 Critical Infrastructure and Risk Assessment Project

Geomatics is responsible for coordinating the annual update of critical infrastructure information from the Community Emergency Management Coordinators (CEMCs), Regional staff and private sector utilities. Regional and municipal base maps are updated with the new critical infrastructure and provided to the appropriate parties. In order to

ensure the creation of quality information, a data model was developed for critical infrastructure, and the update process documented.

4.4.4 Business Continuity/Emergency Management (BC/EM) Committee

Geomatics represents the interests of the Planning and Development Services Department on the BC/EM Committee in a collaborative approach for the coordination and implementation of the Region's Emergency Management by program stakeholders.

4.5 GIS Training and Technology Transfer

Training is remaining a priority for Geomatics as a tool to allow more users to take advantage of the GIS technology, available geospatial information, and a self-service environment to support and enhance their business process.

Geomatics Training Courses and Technology Transfer Sessions Delivered in 2005

Course	Audience	Participants
Upgrade to ArcGIS9 Seminar	Corporate	20
Introduction to ArcGIS	Corporate and York Info Partners	47
ArcExplorer	Police Search and Rescue	21
York Explorer	Corporate	5
GIS Workshop	Transportation and Works	45
GPS and Street Trees Application	Transportation and Works	11
Public Works Solutions Workshop	URISA Conference	50
ArcReader	Transportation and Works	12
WNv Surveillance Applications	Health Services	32
Critical Infrastructure Database Update	Community Emergency Management Coordinators	25
Field Data Collection with ArcPad	York Info Partners	10
Total		278

In 2005, 46 people were trained to use Desktop ArcGIS application. 46% were from York Info Partner organizations, and 54% were regional staff. Of the regional staff attendees, 40% were from the Transportation and Works department. The training provided by Geomatics was evaluated by participants, with 91% of the responses rating the course overall as "Excellent" or "Very Good", and 95% of the responders were willing to "Recommend this course to others" and "Take another Geomatics course".

In addition, 232 people were introduced to other GIS applications. Police Search and Rescue Officers were trained in the use of ArcExplorer and geospatial information. Health Services staff involved with the West Nile Virus Surveillance Program were trained in the use of the WNv Surveillance Database and GPS Field Data Collection System developed by Geomatics.

The technology and information transfer also consisted of the delivery of presentations at professional conferences and seminars on Geomatics initiatives such as Public Works Solutions and Emergency Preparedness.

4.6 Future Directions

Building on the strategic directions of the GIS self service environment, Geomatics will continue to enhance this environment through the creation of updated standard templates, symbology and cartographic standards for GIS users. This will accomplish efficient access to managed geospatial information, standardized representation of data, and drive change in corporate business processes through integration of this technology, derivative products and information.

Training initiatives and the enhanced GIS self service framework will put the power of routine map creation and analysis in the hands of all GIS users. This will allow Geomatics staff to focus on the value added role of extensive geospatial modelling and analysis such as optimized routing for emergency response vehicles, three dimensional simulation of York Region for drainage analysis, application development, and the creation and delivery of advanced map products.

5. FINANCIAL IMPLICATIONS

No new or additional financial implications. Geomatics works with clients and partners to develop service level agreements and Memoranda of Understanding.

6. LOCAL MUNICIPAL IMPACT

Various products and services have been created and disseminated by Geomatics to local municipal members of the YorkInfo Partnership, where they are also made available to residents on many municipal websites. Geomatics will continue to provide map products and spatial analysis to members of the Partnership who have outlined the need for quality products and services in their 2006 workplans.

7. CONCLUSION

Geomatics continues to achieve a high level of customer service and satisfaction through the delivery of quality, value-added mapping products and services in a timely manner, that have become an integral part of business processes in York Region.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report.)